



Acute Coronary Syndromes

NEW BIOMARKER STRATEGY “BRAIN NATRIURETIC PEPTIDE /TROPONIN I- RATIO” FOR DETECTING ACUTE MYOCARDIAL INFARCTION FROM PATIENTS WITH CHEST SYMPTOMS AT EMERGENCY DEPARTMENT

Poster Contributions

Poster Sessions, Expo North

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Background: The accurate diagnosis of acute myocardial infarction (acute-MI) is important to improve life prognosis. The ratio of brain natriuretic peptide (BNP) to troponin I (TnI) level (BNP/TnI-ratio) reflects the degree of left ventricular dysfunction and myocardial injury. We assessed the hypothesis that BNP/TnI-ratio is useful for discrimination between acute-MI and other disease.

Methods: Subjects were 719 consecutive patients who visited emergency department on ambulance because of chest symptoms from August 2010 to December 2011. Five-hundred and two patients were excluded by lack of data or out of detection limit of BNP or TnI, and 217 patients were analyzed. The diagnosis of acute-MI was performed retrospectively after discharge by experienced cardiologists by using clinical records.

Results: Twenty-eight patients were diagnosed as acute-MI. The patients with acute-MI presented significantly lower BNP/TnI-ratio than the patients without acute-MI ($P < 0.0001$). The areas under the receiver-operating characteristics curves for the creatine kinase (CK), TnI and BNP/TnI-ratio to discriminate acute-MI were 0.695 (95%CI; 0.600-0.790, $p=0.001$), 0.759 (95%CI; 0.657-0.865, $p<0.0001$) and 0.892 (95%CI; 0.834-0.951, $p<0.0001$), respectively (Figure).

Conclusions: BNP/TnI-ratio is a feasible and effective parameter to discriminate acute-MI. The predictive value of BNP/TnI-ratio for acute-MI may be superior to other traditional biomarkers.

